## Standardised medical data exchange for optimised health communication

In healthcare, coding systems play a key role in recording health-related information. In our contribution, we take a closer look at SNOMED CT, the internationally used multilingual reference terminology for healthcare. This system consists of a machine-readable ontology combined with a multilingual terminology. Once implemented in software applications such as the electronic health record (EHR) or hospital information systems, SNOMED CT enables the structured capture, documentation, and processing of a variety of health-related data such as findings and diagnoses, procedures, social parameters, etc. in different languages, thus supporting efficient cross-language communication in the healthcare sector.

The translation of the English-language terminology requires a collaborative and community-based approach as well as (inter)national translation guidelines to ensure the quality, consistency, and appropriateness of the translation, considering the cultural requirements of different medical contexts worldwide. We describe the specific challenges of translation, focusing on the importance of (inter)national teamwork and terminological principles for high-quality translation to meet the information needs of different audiences (professionals and patients). In addition, we use the Global Patient Set (GPS) to illustrate how SNOMED CT promotes interoperability in less digitally mature countries and supports the cross-border movement of citizens and their health-related data to countries that are not currently licensed to use SNOMED CT.

Keywords: ontology – medical translation – terminology – medical data exchange – international health communication

## References

Drewer, Petra, and Klaus-Dirk Schmitz. 2017. Terminologiemanagement. Grundlagen – Methoden – Werkzeuge. Heidelberg: Springer.

Gromann, Dagmar. 2014. "Terminology meets the multilingual Semantic Web: A semiotic comparison of ontologies and terminologies." Languages for Special Purposes in a Multilingual, Transcultural World. Proceedings of the 19th European Symposium on Languages for Special Purposes, 8.-10. Juli 2013: 418–428.

https://lsp2013.univie.ac.at/fileadmin/user\_upload/k\_lsp2013/LSP2013\_Proceedings/08\_TERM/LSP 2013\_Gromann.pdf.

Ingenerf, Josef. 2015. "Klassifikationen und Terminologien – eine Übersicht." In Terminologien und Ordnungssysteme in der Medizin. Standortbestimmung und Handlungsbedarf in den deutschsprachigen Ländern, ed. by Otto Rienhoff and Sebastian C. Semler, 35-50, Berlin: Medizinisch Wissenschaftliche Verlagsgesellschaft.

https://library.oapen.org/bitstream/handle/20.500.12657/39874/1/terminologien-und-ordnungssysteme-in-der-medizin.pdf.

IHTSDO. 2022). "Editorial Guide," accessed February 6, 2023, https://confluence.ihtsdotools.org/display/DOCEG.

IHTSDO. 2022. "Guidelines for Translation of SNOMED CT 3.0", accessed February 6, 2023, https://confluence.ihtsdotools.org/display/WIPTRANSLATE/Guidelines+for+Translation+of+SNOMED +CT.

IHTSDO. 2018. "Starter Guide", accessed February 6, 2023,

https://confluence.ihtsdotools.org/display/DOCSTARTDE IHTSDO. 2012. "Guidelines for Management of Translation of SNOMED CT", accessed February 6, 2023,

https://www.snomed.org/SNOMED/media/SNOMED/documents/IHTSDO\_Guidelines\_Management\_ Translation\_SCT\_v2\_02\_20121211-(1).pdf.

Montalt, Vicent, Karen Korning Zethsen, and Wioleta Karwacka. 2018. "Medical Translation in the 21st Century - Challenges and Trends». MonTl. Monografías De Traducción E Interpretación, nr. 10 (diciembre), 27-42. https://www.e-revistes.uji.es/index.php/monti/article/view/3684.

Van Mens, Hugo. J. T., de Keizer, Nicolette F., Nienhuis, Remco, and Cornet, Ronald. (2018). "Clarifying Diagnoses to Laymen by Employing the SNOMED CT Hierarchy." Studies in health technology and informatics 247: 900–904. https://doi:10.3233/978-1-61499-852-5-900

Yan Zhang. 2019. "Consumers' Selection and Use of Sources for Health Information." In Social Web and Health Research, Benefits, Limitations, and Best Practices, ed. by Jiang Bian, Yi Guo, Zhe He, and Xia Hu, 83-102, Cham: Springer. https://doi:10.1007/978-3-030-14714-3